



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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January 6, 1986

TO: Board of Oil, Gas and Mining

THRU: Lowell P. Braxton, Administrator LJB

FROM: Susan C. Linner, ^{SCL} Reclamation Biologist/Permit Supervisor

RE: Tailings Dam Revision, Chevron Resources Company, Vernal Phosphate Operations, ACT/047/007, Uintah County, Utah

Attached is an Executive Summary for a revision Chevron Resources Company proposes at its Vernal Phosphate operations. This will involve disturbance of approximately 225 acres in a previously undisturbed unpermitted area. A bond estimate for this area has been calculated. The bond for the entire operation has been updated and Chevron will submit a bond for \$4,700,000 for the operation, including the proposed revision, for a five-year permit term. The Division requests that the Board concur with the form and amount of surety.

jvb
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EXECUTIVE SUMMARY - REVISION TO EXISTING PERMIT

Mine Name: Vernal Phosphate Operations I. D. No.: ACT/047/001
Operator: Chevron Resources Company County: Uintah
Manila Star Route New/Existing: Existing
Vernal, Utah 84078 Mineral Ownership: Chevron
Telephone: 801-789-2233 Surface Ownership: Chevron
Contact Person: Mr. LeRoy Fyock Lease No.(s): N/A
Life of Mine: 50 Years Permit Term: 5 years
Legal Description: (of revision) Sec. 31 and 32, Township 2 South, Range 22 East;
Sections 5 and 6, Township 3 South, Range 22 East
Mineral(s) to be Mined: Phosphate
Mining Methods: Surface Mine
Acres to be Disturbed: 225 Acres to increase capacity of tailings pond
Present Land Use: Wildlife, grazing and mining
Postmining Land Use: Grazing, Wildlife
Variances from Reclamation Standards (Rule M-10) Granted: None Requested

Soils and Geology:

Soil Description: Gravelly loam - loam, moderately to strongly alkaline, well drained

pH: 6.6-8.5

Special Handling Problems: High erosion hazard

Geology Description: The Meade Peak member (phosphatic Shale Beds) of the Park City formation are exposed on the southern flank of the Uinta mountains. The Weber sandstone underlies the ore zone while the Franson Limestone lies above.

Hydrology:

Ground Water Description: Water table lies below mining zone in the Weber Sandstone.

Surface Water Description: All disturbed area runoff is directed into tailings pond. Seepage collection ponds will be constructed below the dam, with inflow pumped back to the tailings pond.

Water Monitoring Plan: Surface water samples are collected quarterly from 12 sites and ground water is sampled semi-annually

Ecology:

Vegetation Type(s); Dominant Species: Juniper, sage, ricegrass

Percent Surrounding Vegetative Cover: 18%

Wildlife Concerns: Critical deer winter range, mitigated through reclamation plans and winter feeding.

Surface Facilities: (in area of revision) tailings pond, dam, seepage collection ponds, pipelines roads.

Mining and Reclamation Plan Summary: see attached

Surety:

Amount: \$4, 699,000 (updated for entire operation)

Form: Bond

Renewable Term: 5 years (1990 dollars)

ATTACHMENT

Mining and Reclamation Plan Summary
Tailings Dam Expansion
Chevron Resources Company
Vernal Phosphate Operations
ACT/047/007
Uintah County, Utah

During Operations:

1. The existing tailings dam will be raised 70 feet, increasing total disturbance on the minesite by 255 acres. Seepage collection ponds will be constructed below the dam to collect and pump inflow back to the main tailings pond.
2. Topsoil will be stripped from right-of-ways, the dam foundation and borrow areas where possible. Topsoil will be stored and protected from erosion for use in final reclamation of the dam, seepage ponds and borrow areas.
3. Chevron performs groundwater monitoring downdip from the pond. Monitor wells are measured monthly for depth and water quality analysis is performed semi-annually.

Following Operations:

1. Topsoil will be replaced over the outslope of the tailings dam the regraded seepage collection ponds and the borrow areas. Soil material will be sampled to determine fertilizer requirements immediately prior to placement. These areas will be reseeded with an approved seed mixture.
2. Topsoil will not be replaced over the tailings sands. During the next five years, Chevron will conduct test plots on the sands to determine the best revegetation methods and materials for this area.
3. The tailings dam will be left in a nonimpounding condition by the addition of an emergency spillway.

The plan will be approved with the following stipulations:

Stipulations M-3(2)(e) - LK

1. Seed mix #1 (Page 32 of the December 1982 NPI Revegetation Plan) will be used on the outslopes of the dam.
2. Pending the results of the proposed tailing sands test plots, the operator will prepare and submit for review and approval, a final revegetation plan for reclamation of the tailings. This plan must be submitted within 5 years of implementation of the test plots.

Stipulation M-10(3), (13) - RS

The applicant must obtain approval from the Division at least 120 days prior to abandonment of the facility for designs to ensure that the tailings dam will be non-impounding and self-draining. Designs must be implemented at the site concurrently with final reclamation.

Stipulation M-10(12) - LK

Final test plot design for the tailing sands must be submitted to the Division for review and approval at least 90 days before planned implementation.

Stipulations M-10(14) - JSL

1. A composite sample of the affected borrow material will be analyzed for the parameters approved in the mine plan and results submitted to the Division within 90 days of final permit approval. The objective of this sampling shall be to serve as a basis for final fertilizer recommendations as well as for other amendments such as organic materials.

2. A map delineating the MacIntyre tongue stockpile locations must be submitted 90 days prior to the final placement of said stockpiles. This map will be used to determine the protection and safety of the MacIntyre tongue from compaction, contamination and erosion from water and wind. The operator must submit the approximate aerial extent, dimensions, volume, shape and slope of the stockpiles. Temporarily stockpiled materials must have berms and diversions employed to route surface drainage.

BOND ESTIMATE SUMMARY FOR THE VERNAL PHOSPHATE PROJECT
CHEVRON RESOURCES COMPANY
ACT/047/008

Estimate Updated as of November 1985 - J.R. Harden

BOND ESTIMATE SUMMARY

RECLAMATION COSTS:

Description	Acres	Cost	Cost / Acre
Camp Canyon	54	\$ 93,491	\$ 1,730 / ac
Panel "A"	83	\$ 143,611	\$ 1,730 / ac
Panel "C"	122	\$ 211,132	\$ 1,730 / ac
Plant Facilities/Concentrator Area	50	\$ 40,246	\$ 805 / ac
SAG Mill Area	66	\$ 48,459	\$ 734 / ac
Tailings Pond: Impounded Material	345	\$ 140,841	\$ 408 / ac
Tailings Pond: Miscellaneous Areas	91	\$ 109,532	\$ 1,204 / ac
Roads	68	\$ 40,258	\$ 592 / ac
Add'l. Mining Dist. Thru 1989	1130	\$ 1,954,900	\$ 1,730 / ac
Pipeline Leaving Property	7.5	\$ 2,332	\$ 311 / ac
Conveyor w/Tunnel to Panels D & E	3.5	\$ 1,963	\$ 561 / ac
Access Road to Panels D and E	5.5	\$ 3,223	\$ 586 / ac
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SUBTOTALS -	2,025.5	\$ 2,789,988	
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DEMOLITION COSTS:

IX. Bonding (Amended January, 1984)	\$ 449,752
Revised MRP (August, 1984)	\$ 152,669
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SUBTOTAL -	\$ 602,427
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TOTAL ESTIMATE IN 1985 DOLLARS:

RECLAMATION COSTS	\$ 2,789,988
DEMOLITION COSTS	\$ 602,427
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Subtotal	\$ 3,392,415
Add 15% Contingency	\$ 508,862
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TOTAL ESTIMATE IN 1985 DOLLARS	\$ 3,901,277

November 1985
ACT/047/008
Bonding Estimate

ESCALATION SCHEDULE @ 3.79% PER YEAR (MEANS COST INDEX):

1985\$	\$ 3,901,277
1986\$	\$ 4,049,135
1987\$	\$ 4,202,597
1988\$	\$ 4,361,876
1989\$	\$ 4,527,191
1990\$	\$ 4,698,771

1990\$ ROUNDED TO THE NEAREST \$1000 - \$ 4,699,000

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TOTAL BOND AMOUNT REQUIRED IN 1990\$ IS \$ 4,699,000

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The Operator may provide full bond in the amount required in 1990\$ for the full five year term, or, submit annual bond amounts equivalent to the escalation schedule for the next years dollars. That is, for 1985, the Operator would have to provide as a minimum bond, the amount given in 1986\$.